Draft CVPIA Fiscal Year 2010 Annual Work Plan

October 1, 2009

Program Title

Identification of the Instream Flow Requirements for Anadromous Fish in the Streams Within the Central Valley of California and Fisheries Investigations - CVPIA Sections 3406(b)(1) and 3406(b)(1)(B)

Responsible Entities

Staff Name	Agency	Role
Mark Gard	USFWS	Lead

Program Goals and Objectives for FY 2010

- Provide scientific information to be used in developing recommendations for instream flow needs for Central Valley Rivers, by developing improved hypotheses regarding the relationship between flows and the amount of physical habitat for indicator species of ecosystem health in Central Valley Rivers.
- Provide scientific information to other CVPIA programs to use in assessing fisheries restoration actions.

The FY10 activities are consistent with the Fish Focus Group goals from the CVPIA Long-Term Plan, in that all activities are in priority watersheds, and objective of increasing monitoring of the effectiveness of restoration activities.

Status of the Program – Performance to Date

Although this will be the eighth year of funding for this project, this project is a continuation of work conducted under a previous program from 1995 to 2001, to identify the instream flow requirements for anadromous fish in the streams within the Central Valley of California. Accomplishments of the previous program include final reports on instream flow needs for spawning in the Merced and American rivers. The program is nearly complete in achieving the current goals of this project (completing instream flow studies for the Sacramento, American and Yuba rivers and Butte and Clear creeks).

The program has exceeded the program goal of completing up to nine Instream Flow Incremental Methodology (IFIM) studies. The IFIM program fits into the recommendations of the independent review panel of the CVPIA Fisheries Program: 1. increase high-level scientific staffing to support adaptive management – the IFIM program is a logical part of that scientific staffing; 2. use monitoring data to test hypotheses that will form basis for management actions within adaptive management program – the IFIM program's restoration monitoring does this; 3. identify a system-wide flow regime – the IFIM studies are a key part of developing this.

FY 2009 Accomplishments

For the Yuba River, the program conducted peer reviews of draft reports for spring-run and fall-run Chinook salmon and steelhead fry and juvenile rearing, for effects of flow fluctuations on spring-run and fall-run Chinook salmon and steelhead redd dewatering and juvenile stranding, and for spring-run and fall-run Chinook salmon and steelhead spawning. The program anticipates completing all three final reports in FY 2010. For Clear Creek, the program completed a draft report on fall-run Chinook salmon spawning study sites in the lower reach of Clear Creek and data collection for fall-run Chinook salmon juvenile rearing study sites in the lower reach of Clear Creek. For South Cow Creek, the program completed habitat mapping and began data collection for fall-run Chinook salmon juvenile rearing study sites.

Table 1. FY 2010 Tasks, Costs, Schedules and Deliverables

Task or Subtask Number	Name of Activity	FTE's	Description of Activity	Completion Date	Restoration Fund Anticipated	Water & Related Resources Anticipated	Total All Sources Anticipated
1.1	**Program Management**						
1.1.1		0.05	FWS. Overseeing project coordination meetings, managing project finances (budgets, contracts, etc.), and preparing project progress reports. Goals A and B (high priority)	9/30/2010	$10,000	$0	$10,000
	Subtotal Costs	**0.05**			$10,000	$0	$10,000
1.12	**Monitoring**						
1.12.1	South Cow Creek Hydraulic Data Collection	0.19	South Cow Creek, rearing fall-run Chinook salmon, logistic regression and River2D, no partners or cost share, data steward: SFWO, Deliverables: annual report on 9/30/10, this work continues an ongoing study. Goal A (high priority)	9/30/2010	$40,000	$0	$40,000
1.12.2	Stanislaus River biological verification	0.08	Stanislaus River, juvenile fall-run Chinook salmon, logistic regression and River2D, partners: Reclamation Denver Technical Center, data steward: SFWO, Deliverables: annual report on 9/30/10, this work continues an ongoing study. Goal A (high priority)	9/30/2010	$16,000	$0	$16,000
1.12.3	Sacramento and American River Redd Dewatering	0.21	Sacramento and American River, spawning fall-run Chinook salmon and steelhead, River2D, no partners or cost share, data steward: SFWO, Deliverables: annual report on 9/30/10. Goal A (high priority)	9/30/2010	$44,000	$0	$44,000
1.12.4	American River gravel restoration monitoring	0.34	American River, spawning fall-run Chinook salmon and steelhead, River2D, no partners or cost share, data steward: SFWO, Deliverables: annual report on 9/30/10. Goal A (high priority)	9/30/2010	$73,000	$0	$73,000
1.12.5	Red Bluff Fish Screen Monitoring	0.20	Sacramento River, outmigrating Chinook salmon and steelhead, no partners or cost share, data steward: SFWO, Deliverables: annual report on 9/30/10. Goal A (high priority)	9/30/2010	$0	$42,000	$42,000
	Subtotal Costs	**1.02**			$173,000	$42,000	$215,000
1.13	**Modeling**						

Task or Subtask Number	Name of Activity	FTE's	Description of Activity	Completion Date	Restoration Fund Anticipated	Water & Related Resources Anticipated	Total All Sources Anticipated
1.13.1	Modeling of Rearing Habitat in Clear Creek	0.47	No links to other models/efforts, no partners or cost share, River2D, no project phases, Deliverables: annual report on 9/30/10, this work continues an ongoing study. Goal A (high priority)	9/30/2010	$100,000	$0	$100,000
1.13.2	Modeling of Spawning and Rearing Habitat in Stanislaus River	0.17	No links to other models/efforts, partners: Reclamation Denver Technical Center, River2D, no project phases, Deliverables: annual report on 9/30/10, this work continues an ongoing study. Goal B (high priority)	9/30/2010	$35,000	$0	$35,000
1.13.3	Clear Creek Biovalidation – how well does IFIM compare to field observations?	0.05	No links to other models/efforts, no partners or cost share, River2D, no project phases, Deliverables: annual report on 9/30/10, this work continues an ongoing study. Goal B (high priority)	9/30/2010	$10,000	$0	$10,000
1.13.4	Modeling of Rearing Habitat in South Cow Creek	0.05	No links to other models/efforts, no partners or cost share, River2D, no project phases, Deliverables: annual report on 9/30/10, this work continues an ongoing study. Goal A (high priority)	9/30/2010	$10,000	$0	$10,000
1.13.5	Estimating number of dewatered redds in Sacramento and American Rivers and Clear Creek	0.08	Sacramento and American River and Clear Creek, spawning fall-run Chinook salmon and steelhead, River2D, no partners or cost share, data steward: SFWO, Deliverables: annual report on 9/30/10. Goal A (high priority)	9/30/2010	$17,000	$0	$17,000
	Subtotal Costs	**0.82**			$172,000	$0	$172,000
1.14	**Other**						
1.14.1	Clear Creek Peer Review	0.15	Deliverables: annual report on 9/30/10, this work continues an ongoing study. Goal A (high priority)	9/30/2010	$29,000	$0	$29,000
1.14.2	Yuba River Peer Review	0.09	Deliverables: annual report on 9/30/10, this work continues an ongoing study. Goal A (high priority)	9/30/2010	$20,000	$0	$20,000
1.14.5	Comprehensive Assessment and Monitoring Program	0.09	Determine relationship between flows and juvenile anadromous salmonid production, data steward: SFWO, Deliverables: annual report on 9/30/10. Goal A (high priority)	9/30/2010	$20,000	$0	$20,000
1.14.6	Red Bluff Fish Screen Monitoring Report Preparation	0.05	Sacramento River, outmigrating Chinook salmon and steelhead, no partners or cost share, data steward: SFWO, Deliverables: annual report on 9/30/10. Goal A (high priority)	9/30/2010	$0	$11,000	$11,000
	Subtotal Costs	**0.38**			$69,000	$11,000	$80,000
	Total Costs	**2.27**			**$424,000**	**$53,000**	**$477,000**
	Service Total Costs	**2.27**			**$424,000**	**$53,000**	**$477,000**

Task or Subtask Number	Name of Activity	FTE's	Description of Activity	Completion Date	Restoration Fund Anticipated	Water & Related Resources Anticipated	Total All Sources Anticipated
	Reclamation Total Costs	**0**			**$0**	**$0**	**$0**
			Subtotal for b(1) – South Cow Creek		$50,000	$0	$50,000
			Subtotal for b(1) - Yuba River		$20,000	$0	$20,000
			Subtotal for b(2) monitoring – Sacramento and American Rivers and Clear Creek		$61,000	$0	$61,000
			Subtotal for b(13) monitoring –American River		$73,000	$0	$73,000
			Subtotal for b(10) Red Bluff Diversion Dam		$0	$53,000	$53,000
			Subtotal for b(16) Comprehensive Assessment and Monitoring Program		$20,000	$0	$20,000
			Subtotal for b(1)(B) - Clear Creek		$149,000	$0	$149,000
			Subtotal for b(1)(B) – Stanislaus River		$51,000	$0	$51,000
	Unfunded Needs						
1.12.6	Restoration project pre and post-project monitoring	**1.08**	Central Valley streams, spawning and rearing fall-run Chinook salmon, logistic regression and River2D, no partners or cost share, data steward: SFWO, Deliverables: annual report on 9/30/10. Goal A (high priority)		$227,000	$0	$227,000

Table 2. CVPIA Program Budget

Task	Agency	FTE	LABOR		CONTRACTS		USBR Only Misc. Costs	Total Costs
			Direct Salary, Benefits, and Admin Costs [1/]	FWS Only Overhead Assess: 22% of Direct Salary and Benefits Costs [2/]	Contract, Grant, and Agreement Costs	FWS Only Overhead Assess: 6% Contract Costs [2/]		
1.1 Program Management	FWS	0.05	$8,000	$2,000	$0	$0		$10,000
	USBR		$0		$0		$0	$0
1.12 Monitoring	FWS	1.02	$176,000	$39,000	$0	$0		$215,000
	USBR		$0		$0		$0	$0
1.13 Modeling	FWS	0.82	$141,000	$31,000	$0	$0		$172,000
	USBR		$0		$0		$0	$0
1.14 Other	FWS	0.38	$66,000	$14,000	$0	$0		$80,000
	USBR		$0		$0		$0	$0
Administrative Total - FWS			$391,000	$86,000		$0		$477,000
Contracts, Grants and Agreements Total - FWS					$0			$0
FWS Total Costs		2.27	$391,000	$86,000	$0	$0		$477,000
Administrative Total - USBR			$0				$0	$0
Contracts, Grants and Agreements Total - USBR					$0			$0
USBR Total Costs		0	$0		$0		$0	$0
TOTAL ALL		**2.27**	**$391,000**	**$86,000**	**$0**	**$0**	**$0**	**$477,000**

1/ For FWS only: The FWS develops a bio-rate which is the combination of both the salary/benefit and related administrative costs. The FWS simple definition reads, "It is an average $$ rate that is developed and used for estimating project costs. It incorporates a biologists' salary and benefits, supervisory, clerical and biologist support costs and all other office operating costs related to completing project tasks.

2/ FWS assesses an O/H Burden charge of 6% on all contracts/agreements related to budget object codes starting with 25, 41, and 32, and a charge of 22% on costs under all other budget object codes.

Table 3. Three Year Budget Plan FY 2011 – 2013

($ amounts in thousands)

Year	Description of Activities	Requested RF Funding	Requested W&RR Funding
2011	Merced River ongoing Restoration projects pre and post-project monitoring	$739	$0
2012	Tuolumne and Cosumnes River ongoing Restoration projects pre and post-project monitoring	$776	$0
2013	Cottonwood and Antelope Creeks ongoing Restoration projects pre and post-project monitoring	$815	$0

Note: The FY 2011 – 2013 Budget Plan provides estimates of capability only. The amounts displayed are those that

might be reasonably appropriated each year. These figures do not reflect the future Congressional Appropriations process. All of these estimates will be adjusted annually as RF collections are realized.

Table 4. FY 2010 CVPIA Monitoring Projects

Project Description:	South Cow Creek Instream Flow Study
FY 2009 Project Complete?	No
CVPIA annual work plan subtask number:	1.12.1
Scope of the monitoring effort:	Lower 8 miles of South Cow Creek
Product/deliverable:	Annual reports on 9/30/09 and 9/30/10, final report on 9/30/10
Cost:	$40,000
Questions posed:	What is the relationship between flow and fry and juvenile habitat for fall-run Chinook salmon?
Objectives:	Develop hypotheses regarding the relationship between flows and the amount of physical habitat for fall-run Chinook salmon fry and juvenile in South Cow Creek.
Results – expected or actual:	The proposed activity will produce a final report documenting the results of the monitoring activity.
Data collection methods:	River2D
Data management:	Digital files and a final report will be archived by Mark Gard (FWS Sacramento)
Assessment:	The relationship between flow and the amount of habitat for fry and juvenile fall-run Chinook salmon in South Cow Creek will be developed.
Use of information in future decision making:	Flow-habitat relationships will assist AFRP with identifying future restoration activities in South Cow Creek
NMFS OCAP BO RPA	No

Project Description:	Stanislaus River instream flow study
FY 2009 Project Complete?	N/A, new project
CVPIA annual work plan subtask number:	1.12.2
Scope of the monitoring effort:	FWS will assist BOR Denver Technical Center with its instream flow study on the Stanislaus River by collecting biological verification data.
Product/deliverable:	Annual report on 9/30/10
Cost:	$16,000
Questions posed:	Can the biological predictions of River2D with regards to spawning and rearing habitat for fall-run Chinook salmon and steelhead be verified?
Objectives:	Biological verification of the biological predictions River2D with regards to spawning and rearing habitat for fall-run Chinook salmon and steelhead.
Results – expected or actual:	The proposed activity will produce an annual report documenting the results of the monitoring activity.
Data collection methods:	River2D
Data management:	Digital files and an annual report will be archived by Mark Gard (FWS Sacramento)
Assessment:	Biological predictions of River2D with regards to spawning and rearing habitat for fall-run Chinook salmon and steelhead will be verified.
Use of information in future decision making:	Flow-habitat relationships will assist BOR in developing an instream flow regime for the Stanislaus River.
NMFS OCAP BO RPA	No

Project Description:	Redd dewatering analysis on Sacramento River, American River, and Clear Creek.
FY 2009 Project Complete?	N/A, new project
CVPIA annual work plan subtask number:	1.12.3

Scope of the monitoring effort:	Sacramento River, American River, Clear Creek
Product/deliverable:	Digital database and final report providing an analysis of the data.
Cost:	$44,000
Questions posed:	What magnitude of flow fluctuations dewater salmon redds at specific locations?
Objectives:	Identify potential redd dewatering events
Results – expected or actual:	Digital files with a final report providing an analysis of the data.
Data collection methods:	In the fall and winter 2009-2010 field crews will locate salmon redds in major spawning areas on the 3 streams and mark with GPS. Existing IFIM models developed by Gard, et.al. will be used to estimate potential redd dewatering events at those sites.
Data management:	Digital files and a final report will be archived by Mark Gard (FWS Sacramento)
Assessment:	Identify potential redd dewatering events
Use of information in future decision making:	This information will be used to inform (b)(2) water management decisions.
NMFS OCAP BO RPA	No

Project Description:	American River gravel restoration monitoring
FY 2009 Project Complete?	N/A, new project
CVPIA annual work plan subtask number:	1.12.4
Scope of the monitoring effort:	Estimate the amount of spawning habitat for fall-run Chinook salmon and steelhead present over a range of flows following the addition of gravel to the American River at Sailor Bar.
Product/deliverable:	Annual report on 9/30/10
Cost:	$73,000
Questions posed:	How much spawning habitat for fall-run Chinook salmon and steelhead is created as a result of the addition of gravel to the American River at Sailor Bar?

Objectives:	Estimate the effectiveness of the addition of gravel to the American River at Sailor Bar in creating spawning habitat for fall-run Chinook salmon and steelhead.
Results – expected or actual:	The proposed activity will produce an annual report documenting the results of the monitoring activity.
Data collection methods:	River2D
Data management:	Digital files and an annual report will be archived by Mark Gard (FWS Sacramento)
Assessment:	The monitoring will estimate the amount of spawning habitat for fall-run Chinook salmon and steelhead present over a range of flows following the addition of gravel to the American River at Sailor Bar.
Use of information in future decision making:	This information will be used to inform (b)(13) gravel placement decisions.
NMFS OCAP BO RPA	No

Project Description:	Red Bluff Fish Screen Monitoring
FY 2009 Project Complete?	No
CVPIA annual work plan subtask number:	1.12.5
Scope of the monitoring effort:	Monitor near screen velocities for the Red Bluff interim pumping plant
Product/deliverable:	Annual report on 9/30/10
Cost:	$42,000
Questions posed:	Do the Red Bluff interim pumping plant screens meet the NMFS and CDFG fish screen criteria?
Objectives:	Determine if approach velocities are uniformly distributed across the face of the Red Bluff interim pumping plant screens
Results – expected or actual:	The proposed activity will produce an annual report documenting the results of the monitoring activity.
Data collection methods:	Velocity measurements using a SonTek 16 MHz Acoustic Doppler Velocimeter
Data management:	Digital files and an annual report will be archived by Mark Gard (FWS Sacramento)

Assessment:	The monitoring will evaluate if approach velocities are uniformly distributed across the face of the Red Bluff interim pumping plant screens
Use of information in future decision making:	The information will be of use in evaluating the performance of cone screens in riverine environments.
NMFS OCAP BO RPA	No